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RASHID, DAVID	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/767,017	Applicant(s) MIYAZAWA ET AL.	
	Examiner DAVID P. RASHID	Art Unit 2624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on 20 November 2008.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-17 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-17 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Table of Contents

Continued Examination Under 37 C.F.R. § 1.114

[1] A request for continued examination under 37 C.F.R. § 1.114, including the fee set forth in 37 C.F.R. § 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 C.F.R. § 1.114, and the fee set forth in 37 C.F.R. § 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 C.F.R. § 1.114. Applicant's submission filed on Nov. 20, 2008 has been entered.

Amendments & Claim Status

[2] This office action is responsive to the Amendment and Response to Final Office Action received on Oct. 15, 2008 and Nov. 20, 2008. Claims 1-17 remain pending.

Drawings

[3] The replacement drawings were received on Oct. 15, 2008 and are acceptable. In response to the Amendments to the Drawings received on Oct. 15, 2008, the previous drawing objections are withdrawn.

Response to Arguments

[4] Remarks filed Oct. 15, 2008 with respect to claims 1-17 have been respectfully and fully considered, but are not found persuasive.

Summary of Remarks regarding Rejections under 35. U.S.C. § 102(b)

> The Examiner notes that the claims need not be limited to storing units as separate physical entities and therefore equates the memory address of Skodras with the storing unit of the claims *(See* Office Action mailed August 20, 2008, pgs. 4-5). However, as amended, the claims explicitly limit the storing units as "a first-level physical storing unit" and "a second-level physical storing unit" (emphasis added). Accordingly, the cited reference's memory addresses of a single storage unit therefore do not disclose the respective separate first-level and second-level physical storage units of the claims. In view of this amendment, the present arguments in the Office Action regarding whether or not the claims should be limited to such interpretation are moot. As such, Skodras fails to disclose all the limitations of the claim.

Applicant's Remarks at 12, Oct. 15, 2008.

However, amending e.g., "a first-level storing unit" to "a first-level physical storing unit", "wherein the second-level physical storing unit is physically separate from the first-level physical storing unit" does not change the scope of the claim as only the name of the apparatus element (which must be physical already in an apparatus claim) has been changed to add "physical". *See* Final Rejection filed Aug. 20, 2008 at p. 3-7 (supporting the same anticipation in view of the memory address argument).

For clarification and to remove any possible ambiguity, the Examiner has removed the use of memory addresses (as those may pertain to virtual or physical locations, though ultimately physical in the memory where the data would be stored) to the actual physical locations in the memory (removing how the information got there such as use of memory addresses). In basic fact that *Skodras et al.* discloses (i) storing the JPEG 2000 hierarchically compressed and coded image data on memory; (ii) that memory is composed of physical locations; and most importantly (iii) that no two pieces of information can be stored at the same physical location and time is sufficient by reason of inherency to anticipate the claim elements in question. *See* M.P.E.P. § 2112 (citing that "express, implicit, and inherent disclosure of a prior art reference may be relied upon in the rejection of claims under 35 USC § 102 or 103") and M.P.E.P. § 2112(IV) (citing that "[i]n relying upon the theory of inherency, the examiner must provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly

inherent characteristic necessarily flows from the teachings of the applied prior art." Ex parte Levy, 17 USPQ2d 1461, 1464 (Bd. Pat. App. & Inter. 1990) (emphasis in original)".

Fig. 11 of *Skodras et al.* discloses a code stream ultimately compressed of coded code blocks on a most basic level. Each of these coded code blocks has a separate physical location in memory (e.g., a coded code block of value "0011101" has separate physical locations for "0","0",. . .,"1" in the memory). A group of coded code blocks is a packet, a group of packets is a layer, and a group of layers is the code stream itself which would thus comprise separate physical locations. Under this interpretation, the first-level physical storing unit would be those physical locations in memory that store the compressed codes of the first hierarchical layer. The second-level physical storing unit would be those physical locations in memory that store the compressed codes of the second hierarchical layer. Those physical locations comprising the first- and second-level physical storing unit must be separate from each other as outlined above.

Summary of Remarks regarding Rejections under 35. U.S.C. § 103(a)

> In particular, Skodras fails to disclose a distributively storing unit to distributively store the compressed codes for each hierarchical layer separately by hierarchical layer into a physical storage unit of each of the other electronic equipments. Applicant does not discern any part of Qian that cures the deficiency of Skodras.

Remarks at 13.

However as shown above, *Skodras et al.* discloses a distributively storing unit to distributively store the compressed codes for each hierarchical layer separately by hierarchical layer into a physical storing unit. *Qian et al.* discloses a hierarchical method and system for object-based audiovisual descriptive tagging of images for information retrieval, editing, and manipulation (fig. 1) that teaches (i) electronic equipment ("computer" in 2:58-67; fig. 1, items 12, 14, 15, 16, 17, 20) which is coupled to a network (fig. 1, item 18) having other electronic equipments coupled thereto (a computer network is by definition composed of multiple computers being connected together using a telecommunication system for the purpose of sharing data, resources, and communication); and (ii) distributively storing information into a storage unit of each of the other electronic equipments (3:31-34).

It would have been obvious to one of ordinary skill in the art at the time the invention was made for the electronic equipment of *Skodras et al.* to include having other electronic

equipments coupled thereto as taught by *Qian et al.* and the distributively storing unit of *Skodras et al.* to include storing the hierarchical layered compressed codes as taught by *Qian et al.* "…to develop a hierarchical data structure and method that enables association of descriptive data in an image.", *Qian et al.*, 1:59-61 and "to provide a system and method where the descriptive data may be specific to objects in the image and may include textual information, links to other files, other objects within the same image or other images, or links to web pages, and object features, such as shape, and audio annotation.", *Qian et al.*, 1:62-67.

Claim Rejections - 35 U.S.C. § 102

[5] The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

<u>*Skodras et al.*</u>

[6] **Claims 1, 3, 5, 9, 11, 13,** and **17** are rejected under 35 U.S.C. § 102(b) as being anticipated by <u>The JPEG 2000 Still Image Compression Standard</u>, IEEE Signal Processing Magazine, Sept 2001, p. 36-58 (*hereinafter* "Skodras et al.").

Regarding **claim 1**, *Skodras et al.* teaches an image processing apparatus ("computer" in left column, p. 38; fig. 2, p. 38)

> <u>for</u> hierarchically compressing ("Compressed Image Data" in fig. 2, p. 38) and coding ("Entropy Encoding" in fig. 2, p. 38) image data by subjecting pixel values of the image data ("Source Image Data" in fig. 2, p. 38) to a discrete wavelet transform ("Forward Transform" in fig. 2, p. 38; "[p]rior to computation of the forward discrete wavelet

transform (DWT)…", left column, p. 40), quantization and coding for each of one or a plurality of rectangular regions into which the image data is divided ("The image components are (optionally) decomposed into rectangular tiles.", left column, p. 39; Image Tiling Section, right column, p. 39), [*intended use; see M.P.E.P. § 2111.02(II)*] the image processing comprising:

a hierarchical coding unit (unit responsible for producing the packet stream in fig. 11 in p. 45) to compress and code the image data in a state where the image data is divided for each hierarchical region (fig. 11, p. 45; "DWT on Each Tile" in fig. 3, p. 39 wherein the hierarchical regions are the image component itself (level -1), tiles (level 0), precinct (level 1), and code blocks (level 2)), to obtain compressed codes ("Code Stream" in fig. 11, p. 45), wherein the hierarchical coding unit comprises:

a first-level coding unit (coding unit responsible for coding all of the hierarchy levels in fig. 11) to receive the image data ("Image Component" and "Code Stream" in fig. 11) and to create the compressed codes of a first hierarchical layer (tiles (level 0) in fig. 11); and

a second-level coding unit (coding unit responsible for coding all of the hierarchy levels in fig. 11, whether or not it is the same or a different coding unit to the first coding unit) to receive a sub-band (the sub-band of the tile "layer" creates the whole precinct ("packet") as shown in fig. 11 by dashed lines on the right side) of the first hierarchical layer from the first-level coding unit and to create the compressed codes of a second hierarchical layer (precinct (level 1) in fig. 11), wherein the second hierarchical layer is a lower hierarchical layer than the first hierarchical layer (the precincts are at a lower hierarchical layer than tiles in fig. 11); and

a distributively storing unit ("Store and Transmit" in fig. 2, p. 38) to distributively store (fig. 11, p. 45 wherein each tile layer is a separate portion in the code stream) the compressed codes which are divided for each hierarchical layer by the hierarchical coding unit into a storage unit (it is implicit if not already inherent that the image processing apparatus computer of *Skodras et al.* has a memory storage unit), wherein the distributively storing unit comprises:

a first-level physical storing unit (those physical locations in the memory storing the first hierarchical layer in the "[c]ode [s]tream" in fig. 11, and thus all hierarchical layers contained in those physical locations) to store the compressed codes of the first hierarchical layer (tiles (level 0) in fig. 11); and

a second-level physical storing unit (those physical locations in the memory storing the second hierarchical layer in the "[c]ode [s]tream" in fig. 11, and thus all hierarchical layers contained in those physical locations) to separately store the compressed codes of the second hierarchical layer (precinct (level 1) in fig. 11) from the compressed codes of the first hierarchical layer (tiles (level 0) in fig. 11), wherein the second-level physical storing unit (those physical locations in the memory storing the second hierarchical layer in the "[c]ode [s]tream" in fig. 11, and thus all hierarchical layers contained in those physical locations) is physically separate (the physical locations in the memory storing the first hierarchical layer are "physically separate" from the physical locations in the memory storing the second hierarchical layer) from the first-level physical storing unit (those physical locations in the memory storing the first hierarchical layer in the "[c]ode [s]tream" in fig. 11, and thus all hierarchical layers contained in those physical locations).

<u>The same argument can be applied for the first hierarchical layer being the precinct layer and the second hierarchical layer being the code block layer as shown in fig. 11, OR from tile to code block, image component to tile, image component to precinct, OR image component to code block.</u>

Regarding **claim 3**, claim 1 recites identical features as in claim 3. Thus, references/arguments equivalent to those presented above for claim 1 are equally applicable to claim 3. The means-plus-function language is anticipated by the computer hardware ("computer" in left column, p. 38; fig. 2, p. 38) of *Skodras et al.*

Regarding **claim 5**, *Skodras et al.* teaches an image processing apparatus ("computer" in left column, p. 38; fig. 2, p. 38)

<u>for</u> hierarchically compressing ("Compressed Image Data" in fig. 2, p. 38) and coding ("Entropy Encoding" in fig. 2, p. 38) image data by subjecting pixel values of the image data ("Source Image Data" in fig. 2, p. 38) to a discrete wavelet transform ("Forward Transform" in fig. 2, p. 38; "[p]rior to computation of the forward discrete wavelet transform (DWT)…", left column, p. 40), quantization and coding for each of one or a plurality of rectangular regions into which the image data is divided ("The image components are (optionally) decomposed into rectangular tiles.", left column, p. 39; Image Tiling Section, right column, p. 39), [*intended use; see M.P.E.P. § 2111.02(II)*]

the image processing comprising:

a rectangular region coding unit (“Tiling” in fig. 3, p. 39) to compress and code the image data in a state where the image data is divided for each rectangular region (“DWT on Each Tile” in fig. 3, p. 39; “All operations, including component mixing, wavelet transform, quantization and entropy coding are performed independently on the image tiles (fig. 3).”, right column, p. 39), to obtain compressed codes, wherein the rectangular region coding unit creates compressed codes for a first rectangular (tiles (level 0) in fig. 11; a rectangular region as evident in fig. 9 and fig. 3) and creates compressed codes for a second rectangular region (precinct (level 1) in fig. 11; a rectangular region as evident in fig. 9 ad fig. 3); and

a distributively storing unit (“Store and Transmit” in fig. 2, p. 38) to distributively store (fig. 11, p. 45 wherein each tile layer is a separate portion in the code stream) the compressed codes which are divided for each rectangular region by the rectangular region coding unit, wherein the distributively storing unit comprises:

a first physical storing unit (those physical locations in the memory storing the first hierarchical layer in the “[c]ode [s]tream” in fig. 11, and thus all hierarchical layers contained in those physical locations) to store the compressed codes of the first rectangular region; and

a second physical storing unit (those physical locations in the memory storing the second hierarchical layer in the “[c]ode [s]tream” in fig. 11, and thus all hierarchical layers contained in those physical locations) to separately store the compressed codes of the second rectangular region (precinct (level 1) in fig. 11; a rectangular region as evident in fig. 9 ad fig. 3) from the compressed codes of the first rectangular region (tiles (level 0) in fig. 11; a rectangular region as evident in fig. 9 and fig. 3), wherein the second physical storing unit (those physical locations in the memory storing the second hierarchical layer in the “[c]ode [s]tream” in fig. 11, and thus all hierarchical layers contained in those physical locations) is separate (the physical locations in the memory storing the first hierarchical layer are “physically separate” from the physical locations in the memory storing the second hierarchical layer) from the first physical storing unit those physical locations in the memory storing the first hierarchical layer in the “[c]ode [s]tream” in fig. 11, and thus all hierarchical layers contained in those physical locations).

Regarding **claim 9**, claim 5 recites identical features as in claim 9. Thus, references/arguments equivalent to those presented above for claim 5 are equally applicable to

claim 9. The means-plus-function language is anticipated by the computer hardware ("computer" in left column, p. 38; fig. 2, p. 38) of *Skodras et al.*.

Regarding **claim 11**, claim 1 recites identical features as in claim 11. Thus, references/arguments equivalent to those presented above for claim 1 are equally applicable to claim 11.

Regarding **claim 13**, claim 5 recites identical features as in claim 13. Thus, references/arguments equivalent to those presented above for claim 5 are equally applicable to claim 13.

Regarding **claim 17**, *Skodras et al.* teaches an image processing apparatus ("computer" in left column, p. 38; fig. 2, p. 38)

for hierarchically compressing ("Compressed Image Data" in fig. 2, p. 38) and coding ("Entropy Encoding" in fig. 2, p. 38) for each one or a plurality of rectangular regions ("DWT on Each Tile" in fig. 3, p. 39; "All operations, including component mixing, wavelet transform, quantization and entropy coding are performed independently on the image tiles (Fig. 3).", right column, p. 39) into which the image data by subjecting pixel values of the image data ("Source Image Data" in fig. 2, p. 38) to a discrete wavelet transform ("Forward Transform" in fig. 2, p. 38; "[p]rior to computation of the forward discrete wavelet transform (DWT)…", left column, p. 40), quantization and coding for each of one or a plurality of rectangular regions into which the image data is divided ("The image components are (optionally) decomposed into rectangular tiles.", left column, p. 39; Image Tiling Section, right column, p. 39), [*intended use; see M.P.E.P. § 2111.02(II)*]

the image processing comprising:

a hierarchical coding unit (unit responsible for producing the packet stream in fig. 11 in p. 45) to compress and code the image data in a state where the image data is divided for each hierarchical region (fig. 11, p. 45; "DWT on Each Tile" in fig. 3, p. 39 wherein the hierarchical regions are the image component itself (level -1), tiles (level 0), precinct (level 1), and code blocks (level 2)), to obtain compressed codes ("Code Stream" in fig. 11, p. 45), wherein the hierarchical coding unit comprises:

a first-level coding unit (coding unit responsible for coding all of the hierarchy levels in fig. 11) to receive the image data ("Image Component" and "Code Stream" in fig. 11) and to create the compressed codes of a first hierarchical layer (tiles (level 0) in fig. 11); and

a second-level coding unit (coding unit responsible for coding all of the hierarchy levels in fig. 11, whether or not it is the same or a different coding unit to the first coding unit) to receive a sub-band (the sub-band of the tile "layer" creates the whole precinct ("packet") as shown in fig. 11 by dashed lines on the right side) of the first hierarchical layer from the first-level coding unit and to create the compressed codes of a second hierarchical layer (precinct (level 1) in fig. 11), wherein the second hierarchical layer is a lower hierarchical layer than the first hierarchical layer (the precincts are at a lower hierarchical layer than tiles in fig. 11); and

a distributively storing unit ("Store and Transmit" in fig. 2, p. 38) to distributively store (fig. 11, p. 45 wherein each tile layer is a separate portion in the code stream) the compressed codes which are divided for each hierarchical layer by the hierarchical coding unit into a storage unit (it is implicit if not already inherent that the image processing apparatus computer of *Skodras et al.* has a memory storage unit), wherein the distributively storing unit comprises:

a first-level physical storing unit (those physical locations in the memory storing the first hierarchical layer in the "[c]ode [s]tream" in fig. 11, and thus all hierarchical layers contained in those physical locations) to only receive the compressed codes (those physical locations in memory responsible for storing the first hierarchical layer only receive those codes to store) of the first hierarchical layer (tiles (level 0) in fig. 11) from the first-level physical coding unit (tiles (level 0) in fig. 11) and to store the compressed codes of the first hierarchical layer (tiles (level 0) in fig. 11); and

a second-level physical storing unit (those physical locations in the memory storing the second hierarchical layer in the "[c]ode [s]tream" in fig. 11, and thus all hierarchical layers contained in those physical locations) to only receive the compressed codes (those physical locations responsible for storing the first hierarchical layer only receive those codes to store) of the second hierarchical layer (precinct (level 1) in fig. 11) from the second-level physical coding unit (those physical locations in the memory storing the second hierarchical layer in the "[c]ode [s]tream" in fig. 11, and thus all hierarchical layers contained in those physical locations) and to store the compressed codes of the second hierarchical layer (precinct (level 1) in fig. 11)

The same argument can be applied for the first hierarchical layer being the precinct layer and the second hierarchical layer being the code block layer as shown in fig. 11, OR from tile to code block, image component to tile, image component to precinct, OR image component to code block.

Claim Rejections - 35 U.S.C. § 103

[7] The following is a quotation of 35 U.S.C. § 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Skodras et al. in view of Qian et al.

[8] **Claims 2, 4, 7, 10, 12,** and **15** are rejected under 35 U.S.C. § 103(a) as being unpatentable over *Skodras et al.* in view of U.S. Patent No. 6,070,167 (issued May 30, 2000, *hereinafter* "Qian et al.").

Regarding **claim 2**, while *Skodras et al.* discloses an image processing apparatus ("computer" in left column, p. 38; fig. 2, p. 38)

for hierarchically compressing ("Compressed Image Data" in fig. 2, p. 38) and coding ("Entropy Encoding" in fig. 2, p. 38) image data by subjecting pixel values of the image data ("Source Image Data" in fig. 2, p. 38) to a discrete wavelet transform ("Forward Transform" in fig. 2, p. 38; "[p]rior to computation of the forward discrete wavelet transform (DWT)…", left column, p. 40), quantization and coding for each of one or a plurality of rectangular regions into which the image data is divided ("The image components are (optionally) decomposed into rectangular tiles.", left column, p. 39; Image Tiling Section, right column, p. 39), the image processing apparatus forming an electronic equipment (the computer to execute fig. 2, p. 38 forms electronic equipment) [*intended use; see M.P.E.P. § 2111.02(II)*]

and comprising:

a hierarchical coding unit (unit responsible for producing the packet stream in fig. 11 in p. 45) to compress and code the image data in a state where the image data is divided for each hierarchical region (fig. 11, p. 45; "DWT on Each Tile" in fig. 3, p. 39 wherein the hierarchical regions are the tiles (level 0), precinct (level 1), and code blocks (level 2)), to obtain compressed codes ("Code Stream" in fig. 11, p. 45); and

a distributively storing unit ("Store and Transmit" in fig. 2, p. 38) to distributively store (fig. 11, p. 45 wherein each tile layer is a separate portion in the code stream) the compressed codes for each hierarchical layer separately by hierarchical layer (each hierarchical layer is stored in their respective physical locations of memory, each physical locations being physically separate from each other, *see* Claim 1 argument) into a physical storage unit (it is implicit if not already inherent that the image processing apparatus computer of *Skodras et al.* has a physical memory storage unit), *Skodras et al.* does not teach

(i) electronic equipment which is coupled to a network having other electronic equipments coupled thereto; and

(ii) distributively storing information into a storage unit of each of the other electronic equipments.

Qian et al. discloses a hierarchical method and system for object-based audiovisual descriptive tagging of images for information retrieval, editing, and manipulation (fig. 1) that teaches

(i) electronic equipment ("computer" in 2:58-67; fig. 1, items 12, 14, 15, 16, 17, 20) which is coupled to a network (fig. 1, item 18) having other electronic equipments coupled thereto (a computer network is by definition composed of multiple computers being connected together using a telecommunication system for the purpose of sharing data, resources, and communication); and

(ii) distributively storing information into a storage unit of each of the other electronic equipments (3:31-34).

It would have been obvious to one of ordinary skill in the art at the time the invention was made for the electronic equipment of *Skodras et al.* to include having other electronic equipments coupled thereto as taught by *Qian et al.* and the distributively storing unit of *Skodras et al.* to include storing the hierarchical layered compressed codes as taught by *Qian et al.* "…to

develop a hierarchical data structure and method that enables association of descriptive data in an image.", *Qian et al.*, 1:59-61 and "to provide a system and method where the descriptive data may be specific to objects in the image and may include textual information, links to other files, other objects within the same image or other images, or links to web pages, and object features, such as shape, and audio annotation.", *Qian et al.*, 1:62-67.

Regarding **claim 4**, claim 2 recites identical features as in claim 4. Thus, references/arguments equivalent to those presented above for claim 2 are equally applicable to claim 4. The means-plus-function language is anticipated by the computer hardware ("computer" in left column, p. 38; fig. 2, p. 38) of *Skodras et al.*.

Regarding **claim 7**, while *Skodras et al.* teaches an image processing apparatus ("computer" in left column, p. 38; fig. 2, p. 38)

> <u>for</u> hierarchically compressing ("Compressed Image Data" in fig. 2, p. 38) and coding ("Entropy Encoding" in fig. 2, p. 38) image data by subjecting pixel values of the image data ("Source Image Data" in fig. 2, p. 38) to a discrete wavelet transform ("Forward Transform" in fig. 2, p. 38; "[p]rior to computation of the forward discrete wavelet transform (DWT)…", left column, p. 40), quantization and coding for each of one or a plurality of rectangular regions into which the image data is divided ("The image components are (optionally) decomposed into rectangular tiles.", left column, p. 39; Image Tiling Section, right column, p. 39), the image processing apparatus forming an electronic equipment (the computer to execute fig. 2, p. 38 forms electronic equipment) [*intended use; see M.P.E.P. § 2111.02(II)*]
>
> and comprising:

a rectangular region coding unit ("Tiling" in fig. 3, p. 39) to compress and code the image data in a state where the image data is divided for each rectangular region ("DWT on Each Tile" in fig. 3, p. 39; "All operations, including component mixing, wavelet transform, quantization and entropy coding are performed independently on the image tiles (Fig. 3).", right column, p. 39), to obtain compressed codes ("Code Stream" in fig. 11, p. 45); and

a distributively storing unit ("Store and Transmit" in fig. 2, p. 38) to distributively store (fig. 11, p. 45 wherein each tile layer is a separate portion in the code stream) the compressed codes for each rectangular region separately by rectangular region (each hierarchical layer is

stored in their respective physical locations of memory, each physical location being physically separate from each other, *see* Claim 1 argument) into a storage unit (it is implicit if not already inherent that the image processing apparatus computer of *Skodras et al.* has a memory storage unit), *Skodras et al.* does not teach

(i) electronic equipment which is coupled to a network having other electronic equipments coupled thereto; and

(ii) distributively storing information into a storage unit of each of the other electronic equipments.

Qian et al. et al. discloses a hierarchical method and system for object-based audiovisual descriptive tagging of images for information retrieval, editing, and manipulation (fig. 1) that teaches

(i) electronic equipment ("computer" in 2:58-67; fig. 1, items 12, 14, 15, 16, 17, 20) which is coupled to a network (fig. 1, item 18) having other electronic equipments coupled thereto (a computer network is by definition composed of multiple computers being connected together using a telecommunication system for the purpose of sharing data, resources, and communication); and

(ii) distributively storing information into a storage unit of each of the other electronic equipments (3:31-34).

It would have been obvious to one of ordinary skill in the art at the time the invention was made for the electronic equipment of *Skodras et al.* to include having other electronic equipments coupled thereto as taught by *Qian et al.* and the distributively storing unit of *Skodras et al.* to include storing the hierarchical layered compressed codes as taught by *Qian et al.* "…to develop a hierarchical data structure and method that enables association of descriptive data in an image.", *Qian et al.*, 1:59-61 and "to provide a system and method where the descriptive data may be specific to objects in the image and may include textual information, links to other files, other objects within the same image or other images, or links to web pages, and object features, such as shape, and audio annotation.", *Qian et al.*, 1:62-67.

Regarding **claim 10**, claim 7 recites identical features as in claim 10. Thus, references/arguments equivalent to those presented above for claim 7 are equally applicable to

claim 10. The means-plus-function language is anticipated by the computer hardware ("computer" in left column, p. 38; fig. 2, p. 38) of *Skodras et al.*.

Regarding **claim 12**, claim 2 recites identical features as in claim 12. Thus, references/arguments equivalent to those presented above for claim 2 are equally applicable to claim 12.

Regarding **claim 15**, claim 7 recites identical features as in claim 15. Thus, references/arguments equivalent to those presented above for claim 7 are equally applicable to claim 15.

Skodras et al. in view of Beek et al.

[9] **Claims 6** and **14** are rejected under 35 U.S.C. § 103(a) as being unpatentable over *Skodras et al.* in view of U.S. Pub. No. 2002/0091665 (filed Jun. 15, 2001, *hereinafter* "Beek et al.").

Regarding **claim 6**, while *Skodras et al.* discloses the image processing apparatus as claimed in claim 5, though *Skodras et al.* hints at other forms of decomposition (besides tiles) citing "The image components are (optionally) decomposed into rectangular tiles. The tile-component is the basic unit of the original or reconstructed image.", left column, p. 39), *Skodras et al.* does not teach wherein the rectangular region coding unit compresses and codes the image data with a decomposition level dependent on a type of the image data, a type of region of the image data, a type of source electronic equipment of the image data, or an external instruction.

Beek et al. teaches metadata in JPEG 2000 file format that teaches "external instruction" with use of the functions SegmentDecomposition Decomposition, DecompositionDataType Datatype and DecompositionType Attribute (¶¶ 0036-0038).

It would have been obvious to one of ordinary skill in the art at the time the invention was made for rectangular region coding unit as taught by *Skodras et al.* to compress and code the image data with a decomposition level dependent on external instruction as taught by *Beek et al.* "…so that all complaint JPEG2000 viewers will be able to render the image in a proper manner and in addition process the additional information, if desired.", *Beek et al.*, ¶ 0016.

Regarding **claim 14**, claim 6 recites identical features as in claim 14. Thus, references/arguments equivalent to those presented above for claim 6 are equally applicable to claim 14.

Skodras et al. in view of Qian et al. and Beek et al.

[10] **Claims 8** and **16** are rejected under 35 U.S.C. § 103(a) as being unpatentable over *Skodras et al.* in view of *Qian et al.* and *Beek et al.*

Regarding **claim 8**, claim 6 recites identical features as in claim 8. Thus, references/arguments equivalent to those presented above for claim 6 are equally applicable to claim 8.

Regarding **claim 16**, claim 6 recites identical features as in claim 16. Thus, references/arguments equivalent to those presented above for claim 6 are equally applicable to claim 16.

Conclusion

[11] Any inquiry concerning this communication or earlier communications from the examiner should be directed to DAVID P. RASHID whose telephone number is (571)270-1578. The examiner can normally be reached Monday - Friday 7:30 - 17:00 ET.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vikkram Bali can be reached on (571) 272-74155. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/David P. Rashid/

Examiner, Art Unit 2624

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